LAND CAPABILITY AND YIELDS PER ACRE OF CROPS
Dunn County, North Dakota

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive land-forming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes. In the capability system, soils are generally grouped at three levels: capability class, subclass, and unit.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:.

(Class 1) soils have slight limitations that restrict their use.

(Class 2) soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

(Class 3) soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

(Class 4) soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

(Class 5) soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

(Class 6) soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

(Class 7) soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

(Class 8) soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, e, w, s, or c, to the class numeral, for example, 2e. The letter e shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; w shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); s shows that the soil is limited mainly because it is shallow, droughty, or stony; and c, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by w, s, or c because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, 2e-4 and 3e-6. These units are not given in all soil surveys.

The capability classification of map units in this survey area is given in the section Detailed Soil Map Units and in the Land Capability and Component Yields table.

Crop Yield Estimates

The average yields per acre that can be expected of the principal crops under a high level of management are shown in Land Capibility and Component Yields table. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, animal waste manure, and green manure crops; and harvesting that ensures the smallest possible loss.

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in this table, are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service (NRCS) or the Cooperative Extension Service (CES) can provide information about the management and productivity of the soils for those crops.

LAND CAPABILITY AND YIELDS PER ACRE OF CROPS--Continued
Dunn County, North Dakota
(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability		Barley		Bromegrass-alfalfa hay		Oats		Sunflowers		Spring wheat	
	N	I	N	I	N	I	N	I	N	I	N	I
			Bu		Tons		Bu		Lbs		Bu	
3:												
CHANNEL	7e	---	---	---	---	---	---	---	---	---	---	---
STRAW	6w	---										
4:												
ARNEGARD	2c	---	50.00	---	---	---	66.00	---	1,550.00	---	31.00	---
4B:												
ARNEGARD	2e	---	46.00	---	---	---	60.00	---	1,400.00	---	28.00	---
5:												
TONKA	2w	---	20.00	---	2.10	---	26.00	---	---	---	12.00	---
7:												
STRAW	2c	---	49.00	---	---	---	64.00	---	---	---	30.00	---
RHOADES	6s	---										
8C:												
CABBA	6e	---	---	---	---	---	---	---	---	---	---	---
CHAMA	3e	---										
9D:												
AMOR	4e	---	35.00	---	---	---	30.00	---	700.00	---	22.00	---
CABBA	6e	---										
9E:												
CABBA	7e	---	---	---	---	---	---	---	---	---	---	---
10D:												
CABBA	7s	---	---	---	---	---	---	---	---	---	---	---
11F:												
CABBA	7e	---	---	---	---	---	---	---	---	---	---	---
BADLAND	8e	---										
12:												
BANKS	4e	---	14.00	---	---	---	20.00	---	450.00	---	9.00	---
13D:												
WABEK	6s	---	---	---	---	---	---	---	---	---	8.00	---
15:												
BELFIELD	3s	---	37.00	---	---	---	49.00	---	1,150.00	---	23.00	---
FARLAND	2c	---										
16B:												
BELFIELD	3e	---	36.00	---	---	---	47.00	---	1,100.00	---	22.00	---
SAVAGE	2e	---										
18:												
BELFIELD	3s	---	37.00	---	---	---	49.00	---	1,150.00	---	23.00	---
GRAIL	2c	---										
19B:												
BELFIELD	3e	---	36.00	---	---	---	47.00	---	1,100.00	---	22.00	---
MORTON	2e	---										
21B:												
CHERRY	2e	---	33.00	---	---	---	43.00	---	1,000.00	---	20.00	---
21C:												
CHERRY	3e	---	28.00	---	---	---	36.00	---	850.00	---	17.00	---
22:												
COLVIN	3s	---	10.00	---	---	---	13.00	---	---	---	6.00	---
24:												
DIMMICK	3w	---	20.00	---	---	---	21.00	---	---	---	11.00	---
25F:												
BAAHISH	7e	---	---	---	---	---	---	---	---	---	2.00	---
ROCK OUTCROP	8s	---										
27:												
FARLAND	2c	---	44.00	---	---	---	57.00	---	1,350.00	---	27.00	---
27B:												
FARLAND	2e	---	42.00	---	---	---	55.00	---	1,300.00	---	26.00	---
29B:												
FARLAND	2e	---	42.00	---	---	---	55.00	---	1,300.00	---	26.00	---
RHOADES	6s	---										
30E:												

LAND CAPABILITY AND YIELDS PER ACRE OF CROPS--Continued
Dunn County, North Dakota
(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability		Barley		Bromegrass-alfalfa hay		Oats		Sunflowers		Spring wheat	
	N	I	N	I	N	I	N	I	N	I	N	I
			Bu		Tons		Bu		Lbs		Bu	
COHAGEN	7e	---	---	---	---	---	---	---	---	---	2.00	---
VEBAR	6e	---										
31F:												
COHAGEN	7e	---	---	---	---	---	---	---	---	---	2.00	---
VEBAR	7e	---										
ROCK OUTCROP	8s	---										
32B:												
FLAXTON	3e	---	36.00	---	---	---	47.00	---	1,100.00	---	22.00	---
WILLIAMS	2e	---										
32C:												
FLAXTON	4e	---	26.00	---	---	---	34.00	---	800.00	---	16.00	---
WILLIAMS	3e	---										
33:												
GRAIL	2c	---	52.00	---	---	---	68.00	---	---	---	32.00	---
33B:												
GRAIL	2e	---	47.00	---	---	---	62.00	---	---	---	29.00	---
35:												
LAWTHER	2e	---	40.00	---	---	---	57.00	---	1,350.00	---	25.00	---
35B:												
LAWTHER	2e	---	35.00	---	---	---	51.00	---	1,200.00	---	22.00	---
37:												
TREMBLES VARIANT	6w	---	---	---	---	---	---	---	---	---	8.00	---
39:												
HAVRELON	---	---	42.00	---	---	---	55.00	---	---	---	26.00	---
40:												
HAVRELON	6w	---	21.00	---	---	---	28.00	---	---	---	13.00	---
CHANNEL	7e	---										
41:												
HEIL	6s	---	---	---	---	---	---	---	---	---	8.00	---
42B:												
LEFOR	3e	---	29.00	---	---	---	38.00	---	900.00	---	18.00	---
42C:												
LEFOR	4e	---	26.00	---	---	---	34.00	---	800.00	---	16.00	---
43B:												
HAVRELON	---	---	42.00	---	---	---	55.00	---	---	---	26.00	---
44B:												
LIHEN	4e	---	23.00	---	---	---	30.00	---	---	---	14.00	---
44D:												
LIHEN	6e	---	---	---	---	---	---	---	---	---	---	---
45B:												
RUSO	3e	---	20.00	---	---	---	26.00	---	600.00	---	12.00	---
45C:												
RUSO	4e	---	18.00	---	---	---	23.00	---	550.00	---	11.00	---
46:												
BOWDLE	3s	---	31.00	---	---	---	40.00	---	950.00	---	19.00	---
46B:												
BOWDLE	3e	---	26.00	---	---	---	34.00	---	800.00	---	16.00	---
47:												
MOREAU	3s	---	33.00	---	---	---	43.00	---	1,000.00	---	20.00	---
47B:												
MOREAU	3e	---	28.00	---	---	---	36.00	---	850.00	---	17.00	---
47C:												
MOREAU	4e	---	23.00	---	---	---	30.00	---	700.00	---	14.00	---
48B:												
TEMVIK	2e	---	42.00	---	---	---	55.00	---	1,300.00	---	26.00	---
49:												
MORTON	2c	---	44.00	---	---	---	57.00	---	1,350.00	---	27.00	---
49B:												
MORTON	2e	---	42.00	---	---	---	55.00	---	1,300.00	---	26.00	---

LAND CAPABILITY AND YIELDS PER ACRE OF CROPS--Continued
Dunn County, North Dakota
(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability		Barley		Bromegrass-alfalfa hay		Oats		Sunflowers		Spring wheat	
	N	I	N	I	N	I	N	I	N	I	N	I
			Bu		Tons		Bu		Lbs		Bu	
49C: MORTON	3e	---	31.00	---	---	---	40.00	---	---	---	19.00	---
51C: AMOR	7s	---	---	---	---	---	---	---	---	---	1.00	---
52B: MORTON RHOADES	2e 6s	--- ---	42.00	---	---	---	55.00	---	1,300.00	---	26.00	---
52C: MORTON RHOADES	3e 6s	--- ---	31.00	---	---	---	40.00	---	---	---	19.00	---
53B: WATROUS	---	---	28.00	---	---	---	36.00	---	850.00	---	17.00	---
54B: PARSHALL	3e	---	36.00	---	---	---	47.00	---	1,100.00	---	22.00	---
55: PITS	8s	---	---	---	---	---	---	---	---	---	---	---
58: REGENT	2s	---	44.00	---	---	---	57.00	---	1,350.00	---	27.00	---
58B: REGENT	2e	---	39.00	---	---	---	51.00	---	1,200.00	---	24.00	---
58C: REGENT	3e	---	31.00	---	---	---	40.00	---	950.00	---	19.00	---
61B: REGENT RHOADES	2e 6s	--- ---	39.00	---	---	---	51.00	---	1,200.00	---	24.00	---
61C: REGENT RHOADES	3e 6s	--- ---	31.00	---	---	---	40.00	---	950.00	---	19.00	---
62B: RHOADES	6s	---	---	---	---	---	---	---	---	---	6.00	---
62D: RHOADES CABBA	6s 6e	--- ---	---	---	---	---	---	---	---	---	6.00	---
64: BADLAND	8e	---	---	---	---	---	---	---	---	---	---	---
67: SAVAGE	2c	---	42.00	---	---	---	55.00	---	---	---	26.00	---
67B: SAVAGE	2e	---	37.00	---	---	---	49.00	---	---	---	23.00	---
68: VANDA	6s	---	---	---	---	---	---	---	---	---	---	---
69B: SAVAGE RHOADES	2e 6s	--- ---	37.00	---	---	---	49.00	---	---	---	23.00	---
70C: SEARING	4e	---	23.00	---	---	---	30.00	---	700.00	---	14.00	---
71B: SEN	2e	---	37.00	---	---	---	49.00	---	1,150.00	---	23.00	---
71C: SEN	3e	---	31.00	---	---	---	40.00	---	950.00	---	19.00	---
73C: CHERRY VANDA	3e 6s	--- ---	28.00	---	---	---	36.00	---	850.00	---	17.00	---
75: STRAW	2c	---	49.00	---	---	---	64.00	---	---	---	30.00	---
79: VELVA	3e	---	36.00	---	2.60	---	47.00	---	1,100.00	---	22.00	---
81B: VEBAR PARSHALL	3e 3e	--- ---	31.00	---	---	---	40.00	---	950.00	---	19.00	---

LAND CAPABILITY AND YIELDS PER ACRE OF CROPS--Continued
Dunn County, North Dakota
(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability		Barley		Bromegrass-alfalfa hay		Oats		Sunflowers		Spring wheat	
	N	I	N	I	N	I	N	I	N	I	N	I
			Bu		Tons		Bu		Lbs		Bu	
81C:												
VEBAR	4e	---	26.00	---	---	---	34.00	---	800.00	---	16.00	---
PARSHALL	4e	---										
81D:												
VEBAR	6e	---	13.00	---	---	---	18.00	---	400.00	---	8.00	---
82D:												
VEBAR	7s	---	---	---	---	---	---	---	---	---	1.00	---
83E:												
BAAHISH	7e	---	---	---	---	---	---	---	---	---	2.00	---
84:												
HIDATSA	3s	---	33.00	---	1.40	---	43.00	---	1,000.00	---	20.00	---
84B:												
HIDATSA	3e	---	28.00	---	1.20	---	36.00	---	850.00	---	17.00	---
86F:												
BRANDENBURG	7s	---	---	---	---	---	---	---	---	---	2.00	---
CABBA	7e	---										
87F:												
LAKOA	7e	---	---	---	---	---	---	---	---	---	---	---
88:												
WILLIAMS	2c	---	44.00	---	---	---	57.00	---	1,350.00	---	27.00	---
88B:												
WILLIAMS	2e	---	42.00	---	---	---	55.00	---	1,300.00	---	26.00	---
88C:												
WILLIAMS	3e	---	31.00	---	---	---	40.00	---	950.00	---	19.00	---
90C:												
WILLIAMS	7s	---	---	---	---	---	---	---	---	---	1.00	---
91B:												
WILLIAMS	2e	---	42.00	---	---	---	55.00	---	1,300.00	---	26.00	---
NOONAN	4s	---										
91C:												
WILLIAMS	3e	---	31.00	---	---	---	40.00	---	950.00	---	19.00	---
NOONAN	6s	---										
93C:												
WILLIAMS	3e	---	31.00	---	---	---	40.00	---	950.00	---	19.00	---
ZAHL	4e	---										
93D:												
ZAHL	6e	---	16.00	---	1.10	---	21.00	---	500.00	---	10.00	---
WILLIAMS	4e	---										
93E:												
ZAHL	7e	---	8.00	---	1.00	---	11.00	---	250.00	---	5.00	---
WILLIAMS	6e	---										
94B:												
MOREAU VARIANT	4e	---	23.00	---	---	---	30.00	---	700.00	---	14.00	---
94E:												
WAYDEN	7e	---	---	---	---	---	---	---	---	---	3.00	---
101B:												
AMOR	2e	---	40.00	---	---	---	55.00	---	1,300.00	---	25.00	---
101C:												
AMOR	3e	---	40.00	---	---	---	40.00	---	950.00	---	25.00	---
102:												
SHAMBO	2c	---	44.00	---	---	---	57.00	---	---	---	27.00	---
102B:												
SHAMBO	2e	---	42.00	---	---	---	55.00	---	---	---	26.00	---
105:												
HARRIET	6s	---	---	---	---	---	---	---	---	---	6.00	---
106B:												
DAGLUM	4s	---	20.00	---	---	---	26.00	---	---	---	12.00	---
107:												
AQUENTS	8w	---	---	---	---	---	---	---	---	---	---	---
109B:												

LAND CAPABILITY AND YIELDS PER ACRE OF CROPS--Continued
Dunn County, North Dakota

(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability		Barley		Bromegrass-alfalfa hay		Oats		Sunflowers		Spring wheat	
	N	I	N	I	N	I	N	I	N	I	N	I
			Bu		Tons		Bu		Lbs		Bu	
EKALAKA	4e	---	20.00	---	---	---	26.00	---	---	---	12.00	---
207F:												
ARIKARA	7e	---	---	---	---	---	---	---	---	---	6.00	---
209E:												
CHERRY	4e	---	20.00	---	---	---	26.00	---	600.00	---	12.00	---
CABBA	7e	---										
211F:												
BADLAND	8e	---	---	---	---	---	---	---	---	---	---	---
CABBA	7e	---										
ARIKARA	7e	---										
W:												
WATER	---	---	---	---	---	---	---	---	---	---	---	---